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ABSTRACT

The development and use of communication and information technologies, notably the Internet, have stimulated huge changes in the organization of work and daily life in Europe, leading to a process of transition from the "Industrial" to the "Information" society. The ultimate aim of the Information Society should be the empowerment of all its citizens through access to and use of knowledge but at present some people, including women, are more distant than others from the opportunities presented by the Information Society. Thus, although the Internet has been hailed as an emancipating and democratizing force, it is not gender-neutral. Evidence of a gender imbalance in the use of the Internet threatens the vision of a democratic space to which everyone has equal access and in which everyone is equal. This paper reviews the literature on the topic of women, the information society and the Internet. It also presents selected results of Masters research projects undertaken in the Department of Information Science at Loughborough University. Specifically, the paper discusses female access to the Internet and explores some of the barriers that may prevent women having the same access as men. It also examines differences in male and female Internet use. The point is made that, very often, the negative aspects of the Internet for women are emphasized but stresses that there are, in fact, positive reasons for women to use the Internet and advantages to this method of computer mediated communication for women. Finally, the concept of Cyberfeminism is discussed. It is concluded that although there are negative sides to the technology, women must engage with the Internet if they are to help shape the Information Society. (Contains 35 references.) (Author)

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Women and the Information Society: barriers and participation

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Abstract:

The development and use of communication and information technologies, notably the Internet, have stimulated huge changes in the organisation of work and daily life in Europe, leading to a process of transition from the "Industrial" to the "Information" society. The ultimate aim of the Information Society should be the empowerment of all its citizens through access to and use of knowledge but at present some people, including women, are more distant than others from the opportunities presented by the Information Society. Thus, although the Internet has been hailed as an emancipating and democratising force it is not gender-neutral. Evidence of a gender imbalance in the use of the Internet threatens the vision of a democratic space to which everyone has equal access and in which everyone is equal. This paper reviews the literature on the topic of women, the information society and the Internet. It also presents selected results of Masters research projects undertaken in the Department of Information Science at Loughborough University. Specifically, the paper discusses female access to the Internet and explores some of the barriers that may prevent women having the same access as men. It also examines differences in male and female Internet use. The point is made that, very often, the negative aspects of the Internet for women are emphasised but stresses that there are, in fact, positive reasons for women to use the Internet and advantages to this method of computer mediated communication for women. Finally, the concept of Cyberfeminism is discussed. It is concluded that although there are negative sides to the technology, women must engage with the Internet if they are to help shape the Information Society.

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Introduction

The development and use of information and communication technologies (ICTs), notably the Internet, have stimulated huge changes in the organisation of work and daily life in developed countries, leading to a process of transition from the "industrial" to the "information" society. One of the essential characteristics of information societies is a high level of information use among the general public (Moore, 1999). This means that everyone should have access to information for their own social, economic, political and cultural development. As Dearnley and Feather (2001) point out, information technology does not define the information society nor is the information society merely computing and associated activities such as the Internet. Nevertheless, ICTs do offer huge opportunities for improving the ways that communities and individuals operate by providing alternative, universal and often cheaper ways of accessing and disseminating information, and the Internet, in particular, has had a huge impact on the development of the information society.

The ultimate aim of the information society is the empowerment of all its citizens through access to and use of knowledge, but there is concern that some people, including women, are more distant than others from the opportunities presented by the changes being wrought by ICTs. Thus, although the Internet has been hailed as an emancipating and democratising force, it is not gender-neutral and it has been suggested that the information society is becoming increasingly divided into information 'haves' and 'have nots' with women, particularly immigrant women, minority women, women with disabilities, women in poverty and older women lacking the information resources available to others (see, for example, Houdart-Blazy, 1996). In contrast to this perspective, other commentators have drawn attention to the potentially liberating nature of the Internet for women (for example, Bahdi, 2000), arguing that through ICT women have the opportunity to network on a global scale and become in involved in society and community development in new ways.

This paper explores issues surrounding women and the Internet, and includes the results of Masters research projects undertaken at Loughborough University (Spacey, 2000; Heimrath, 1999). Issues of use and access will be explored as will the advantages and potential of the Internet as a networking tool for women. Finally, the concept of Cyberfeminism will be discussed.

Women and Internet Access and Use

A variety of research reports and surveys throughout the 1990s and early years of the 21st century documented the digital gender divide, discussed the difficulties faced by women in accessing the Internet and also explored subtle differences in male and female use of the technology.

Access

According to the latest figures from the UK's National Statistics Office, British men are more likely to have used the Internet than women(National Statistics, 2001). 57 per cent of men had used the Internet compared with 45 per cent of women. Intra-gender differences are of interest, however. According to NOP, among 15-25 year old Internet users females outnumber males, suggesting that younger women at least are comfortable with the technology (Kinnes, 1999). Although, the 'chickclick' phenomenon has apparently arrived in the UK (O'Rouke, 1999), the experiences of older women who have received less IT training and familiarity through education have not been well documented. It is important, therefore, not to be essentialist when considering women's use of the Internet because an individual woman's use of, and attitude towards, the Internet is dependent on a number of variables. Not *all* women lack the computing experience, confidence, skills and access to engage with the information society, indeed, some women have better access to the facilities and are more at ease with the technology than some men. While these differences must be analysed, we can surmise that, *as a whole*, women are in danger of being

disempowered compared to men because of a variety of barriers that prevent women accessing and using the Internet to the same extent as men.

Barriers to women's Internet use

Women's Internet access is increasing, therefore, but a number of difficult and stubborn obstacles remain.

Time and money

Finance and time are barriers of a very practical nature that may prevent women accessing the Internet. Resnick (1995) found that, "the biggest barriers to women going online are time and money". Women generally have less disposable income than men and, in the UK, earn just 82 per cent of men's hourly earnings (Women and Equality Unit, 2002). The costs of going online can be more of a barrier for women than men, therefore. Finance may not be the insurmountable barrier it once was, however. The prices of computer hardware and Internet Service Provider (ISP) costs are falling and women now do not need to own a computer or pay an ISP for access at home as the Internet can be accessed in many public spaces including public libraries, Internet cafes and even supermarkets. In the UK, the UKOnline Centres initiative aims to provide access to ICTs in local, community-based sites including Internet cafés, public libraries, colleges, community centres and village halls (UKOnline Centres, 2002). The centres also offer training and support for new users which is essential for those lacking confidence in the use of ICT - another major barrier for those wary about using the Internet or even entering an unfamiliar public space. For those of us in developed countries, access to ICTs is generally not the problem it once was, then, although we should not forget that some members of society do not have access for a variety of reasons. It is also important not to generalise from a Western perspective and to realise that for those in developing countries, in particular, there are various barriers that need to be overcome before use of the Internet is widespread including the expense of connections and the lack of telephone lines and electricity. *Women@Internet* (Harcourt, 1999), an edited volume of contributions exploring women's use of the technology around the globe, gives an excellent overview of the potential power of projects using the Internet worldwide, but also highlights concerns relating to lack of access or inequitable access.

Even if a woman has access to a computer in her household or at hand, the lack of time to go online can be an obstacle to use. Married or partnered women still generally work a double-shift of paid work and domestic or caring responsibilities. All the surveys conducted over the last decade continue to indicate that women, even those with full-time paid employment, are still responsible for the bulk of the work of the household. With so many demands on their time, it is clear that women have less spare time than men to surf the Web. Furthermore, Spender suggests that women do not view using the Internet as a leisure pursuit as men do (Spender, 1995). This assertion is supported by other researchers in the area who argue that women view computers and their applications as tools but not as a leisure activity (see, for example, Martin, 1998 and Cunningham, 1994). So it seems that even when women can find the time to access the Internet and become proficient in its use, they might not necessarily see a purpose for it. As an article in the Washington Post reasoned, "It's not that going on-line is too complex a task for women [....] to master. It's that they have yet to find much in the way of useful and compelling benefits for doing so" (Maier, 1995).

Lack of confidence

The relationship between gender and computers has been much researched. It is argued that a variety of forces and pressures mean that women's relationship to ICT is often characterised as 'problematic' (Shade, 1998). Social stereotyping, for example, can give girls the impression that computers are not for them whilst negative school experiences can discourage females pupils from pursuing an interest in computers. Forces such as these can lead women to feeling under-confident and reluctant to use ICT. In a 1996 study of female university students, Ford and Miller found that whilst the men in their sample enjoyed "browsing around the Internet", the women seemed "relatively disenchanted with the Internet,

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generally feeling themselves unable to find their way around effectively" (Ford and Miller, 1996). Although this study is now some years old, the issue of under confidence or reluctance to engage with technology can still be a problem for women, especially when their experiences of using the Internet is a negative or damaging one due to the problem of 'flaming' and/or computer pornography.

Negative experiences of the Internet

The literature identifies a number of facets of Internet culture that may deter women from going online including male monopolisation of discussion lists and bulletin boards and the flaming and harassment of females users by male users. Dale Spender (1995) devotes a whole chapter to the "male menace on the superhighway" in her book giving an overview of issues surrounding women and the Internet. Spender's earlier works on *Man-made Language* (Spender, 1985) and *Invisible Women* (Spender, 1982) are well known and in *Nattering on the Net* (Spender, 1995) she extends her argument that men dominate both linguistically and in conversation, to a study of male and female interaction on the Web. She asserts that, if anything, male domination is worse in cyberspace than in the real world. The results of We's study support Spender's argument (We, 1994). She published the results of a participant count on three feminist newsgroups. Since feminist issues were not expected to be of great interest to male Internet users, female participation was expected to be overwhelming. It was found, though, that males dominated even on these female-oriented lists - up to 80% of posting were from men. This led We to conclude that on "almost any open network, men monopolize the talk" (We, 1994). Another study of gender differences in computer-mediated communications found that on the exceptional occasions that women did post more messages than men on a list, the men became hostile and angry, threatening to unsubscribe from the list because they felt they were being silenced (Spender, 1995).

Herring also investigated the phenomenon of flaming in a study investigating the differing online communication styles of men and women (Herring, 1994) and found that whilst men accepted flaming as a regular feature of academic life, women reacted with aversion. Sutton argued that men consider flaming acceptable behaviour and because they dominate in cyberspace, they make the decision about what is appropriate (Sutton, 1996). Women, on the other hand are likely to be upset by "violations of politeness", according to Herring and therefore become discouraged from using Internet services such as discussion lists and newsgroups when they encounter behaviour which distresses them (Herring, 1994). Whilst flaming can be unpleasant and distressing, it is not the only form of intimidation that female Internet users may encounter. Harassment via email and in Internet chat rooms is also common. The amount of pornography on the Internet has also received a lot of attention and is frequently cited as a factor that deters women from going online. In one user survey, nearly 10 per cent of women said that pornography was their greatest concern related to the Internet compared with just 3 per cent of men (GVU, 1998). Women can be dissuaded from using the Internet, therefore, because of the male-oriented culture and behaviours associated with it including male monopolisation of discussion lists and bulletin boards and the harassment of female users.

Women's use of the Internet

Despite the problems listed above, there is an increasing number of women going online but whilst the proportion of female Internet users is clearly increasing, subtle gender differences are still apparent in the extent and purpose of use of the medium. An Australian study found that that the most pronounced differences in the use of Internet services were in the following areas:

- "surfing the Net" (80% of males compared with 69% of females);
- use of trading tools (23% vs. 14%);
- accessing news (58% vs. 38%);
- looking at sexual content (25% vs. 6%); and
- transaction processing such as banking and paying bills (36% vs. 25%). (Australian Broadcasting Authority, 2001)

The American *Internet Life Report* (Pew Internet & American Life Project, 2000) found that women were more likely to search for health/medical information, job information and religious or spiritual information. Somewhat surprising, women in this survey were also more likely to play games online. Men were more likely to search for news, financial information, product or service information, information about a hobby or interest, political information and sports information. They were also more likely to sell and buy stocks and shares and participate in online auctions. With other general Internet shopping, though, there was very little difference between the sexes.

The *Internet Life Report* was primarily concerned with how women use the Internet to maintain relationships with family and friends. The report concluded that, "women have used email to enrich their important relationships and enlarge their networks" (Pew Internet & American Life Project, 2000). Email certainly seems to be a strong attraction of the Internet for women. In 1995, Resnick concluded that "communications ranks highest on women's online agenda" as her study found that emailing friends and family was the Internet feature used most by women (Resnick, 1995). Another 1995 study also found a high use of email; 30 per cent of respondents said it was their main reason for going online whilst 33 per cent cited research (Sherman, 1998). The academic nature of Sherman's sample probably biased the results of her survey but, nevertheless, the ability to use email appears to be a strong attraction of the Internet for women and although men also use this facility, "women cite the benefits of email more frequently than men do" (PR Newswire, 2000).

This discussion of women's use of the Internet and, in particular, the focus on women's attachment to email, gives some indication of why the Internet has the potential to be a powerful tool for women.

Potential of the Internet for Women

As we have seen, women engage with the Information Society through the Internet in a variety of contexts (at home, through public access points and at work) and for a variety of reasons (leisure, citizen participation, work and consumerism). There is, however, a tendency to emphasise the barriers that women face which prevent them participating fully in the Information Society without acknowledging that the Internet can offer women the opportunity to become involved in new ways, empowering groups which have been under-represented in the past. Through the Internet, women can express themselves anonymously. It also presents them with new opportunities to develop and participate in additional forms of communication and organisation, creating mechanisms of information interchange and dissemination that encourage support and solidarity. A study at Loughborough University (Spacey, 2000) investigated the role of the Internet as a feminist tool and selected results are presented below alongside consideration of other literature in the area.

Woman-friendly

Of the 100 respondents to the Loughborough study, 70 considered the Internet to be a woman-friendly resource (11 felt it was not and 18 did not know). For many, the feeling of control that the Internet gave them was the principal benefit. As one respondent commented, "I'm in control of where I go, what I see, who I talk to". The anonymity afforded by cyberspace was also considered very attractive. McCulley and Patterson (1996) found that electronic communication was viewed positively by women because it reduced their worry that they would be judged by their physical appearance. This notion was echoed by survey respondents, one of whom commented, "people are forced to judge you on what you say alone" whilst others agreed that the Internet can overcome gender prejudice because others do not know your sex.

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Networking and access to information

Traditionally, the women's movement has made extensive use of networking. The costs of traditional forms of networking can be a problem, but electronic communication offers women a dynamic, efficient and rapid means of contact. The Internet thus makes it possible for women all over world to participate in virtual communities and to converse and share news, information, experience, knowledge, support and advice. This could enhance women's full and equal participation in all aspects of society. Although the negative aspects of the Internet for women are often emphasised, feminist research has also celebrated the positive aspects of the Internet, viewing it as a complimentary means of communication alongside the telephone, fax and even letter writing. As Gittler notes, "Information and communications have always played a vital role in the global women's movement. Electronic communications are facilitating women's networking and advocacy in ways not previously possible" (Gittler, 1999). It is even argued that the Internet has advantages over and above these more conventional means of contact because of its power to connect women all over the globe in a matter of minutes, women who would probably never have the opportunity to meet anywhere apart from in cyberspace. According to some observers, the Internet has brought us to "a new age of discovery by women about women" (Youngs, 1999) as women with very different lives can be in contact. An action research project in Australia, for example, established an electronic discussion group which linked women in rural and urban areas, giving rural women information they would otherwise have had difficulty accessing and giving women in urban areas the perspective of those in rural districts (Lennie et al, 1999). The Internet thus creates opportunities for dialogue, exposing women to the issues and perspectives of other women living and working thousands of miles away. As Bahdi suggests, "the Internet creates the possibility for an expanded dialogue between women" (Bahdi, 2000).

The Internet therefore enables campaigns to be mobilised, information and knowledge to be disseminated and personal experiences to be shared. Email, for example, can help female users overcome geographic and social isolation. As one respondent to the Loughborough study argued, women are generally less mobile than men but the Internet can be accessed from home, opening up the possibility of virtual contacts and making vital information accessible. Bahdi suggests that one of the main ways in which the Internet empowers women is by giving them enhanced access to information about their rights (Bahdi, 2000). The respondents to the Loughborough study suggested that, through the Internet, information could be found on women's activities that were not reported in the mainstream media. Thus, the Internet reduces isolation and enables women to keep informed of activities and issues of which they might otherwise be unaware.

Feminist activity

For Youngs, the Internet has radical potential,

"the new links offer women on an international basis new knowledges about one another and collective communicative opening to share experiences, views and goals and to strategize. The shared characteristics of such endeavours are potentially transcendent in a number of ways. And it can be argued that they represent consciousness-raising possibilities in new transnational settings" (Youngs, 1999).

There are countless examples of this radical potential translated into reality as women around the world use electronic discussion lists, newsgroups, projects and conferences to communicate with other women, share experiences and learn from one another. The Internet could thus be viewed as an important feminist medium and tool for effecting social change as it can empower and promote dialogue between women, giving public voice to women's interests:

"Every campaign feminists have ever thought of is present on the Internet. From what to do and who to contact for help in the case of sexual assault, to networks of women living in remote area, to campaigns about education or violence, to networks of lesbians, Women's Studies scholars, women's organisations, environmentalists; and the possibilities are endless" (Hawthorne and Klein, 1999).

This was certainly recognised by many of the respondents to the Loughborough survey, one of whom felt that a principal advantage of the Internet was that it "puts women in touch with other like-minded individual; somehow the connotations of this is more liberating for women". With specific reference to feminism, respondents felt that the Internet was useful because women's groups could share information and collaborate on projects. McCully and Patterson argue that, "The Internet will provide the nearest approximation our society can offer to a mass meeting of feminists" (McCulley and Patterson, 1996) and some feminists are even hopeful that the Internet will prove to be the tool that facilitates a revival in feminist activity and interest. As one respondent to the Loughborough survey stated, "I think the Internet has great potential in linking women together and being used as a feminist tool. I can foresee the Internet as a mechanism in a third wave of feminism."

A Web site of one's own

The Internet also enables women to participate in the Information Society in another way. Publishing, traditionally a 'Gentleman's profession', has now become much more accessible to women via the World Wide Web. The Internet offers women the opportunity to express themselves freely and "creates a public space for women's interests" (Bahdi, 2000). Women can use Internet publishing tools to develop their own publishing and media activities on the networks and, in contrast to the mainstream media, create gender-sensitive media products. These alternative communications outside the conventional media have the potential to counteract discrimination and stereotyping. Using Internet technology, therefore, women have created and used alternative communication channels to support their campaigning efforts, defend their rights, disseminate their own forms of representation and question dominant models of mainstream culture. Bahdi, for example, celebrates the power of the Internet for bringing women's issues to the attention of the mainstream:

"If the international community is slow to respond to women's global disadvantage largely because of the exclusion of women's voices from the public world, then the Internet is helping to bring women's voices into public space." (Bahdi, 2000)

Cyberfeminism

In the Loughborough survey, the following definition of Cyberfeminism was given:

"Cyberfeminism is a philosophy which acknowledges, firstly, that there are differences in power between women and men specifically in the digital discourse; and secondly, that Cyberfeminism wants to change this situation." (Hawthorne and Klein, 1999)

According to this definition, Cyberfeminism recognises that, for a variety of reasons, men and women are treated differently in cyberspace and this must be addressed. Some of the respondents to the Loughborough survey had difficulty with the above definition or the term 'Cyberfeminism' itself but 41 per cent of respondents identified themselves as cyberfeminists and commented further on a number of aspects of Internet access and use which they felt encapsulated the spirit and aims of Cyberfeminism. For some, encouraging other women to learn to use the Internet and to make best use of the services it offered was an important feature of Cyberfeminism, both as an essential source of information for women and so that women's interests are taken into account. One respondent noted:

"I keep trying to get women and women's groups to develop their use of the Internet, their interest for Internet issues, their culture to include technology and get their daughters to do the same, so women could contribute to the development of ICTs".

Some of the respondents agreed that women face obstacles in using the Internet, as stated in the definition given, often due to different socialization and educational experiences. The issue of male-centred design and male domination of the Internet was also considered an obstacle to women's use, one that some respondents hoped Cyberfeminism would help overcome:

"I feel strongly that I am carrying on my feminist work by making space for women in the most male-dominated areas of the Internet technology world."

Publishing sites on the Internet with a feminist or at least a female-oriented focus was considered part of Cyberfeminism and was seen as important to try to change the perceptions of both men and women and show that women are welcome in cyberspace:

"I think that creating relevant, women-friendly sites and linking up with each other is a very effective way of launching our own protest against the anti-women sites on the Web"

For some respondents, it was particularly important that sites devoted to women's culture were created "as a counter-culture to patriarchal sexist cultures".

Cyberfeminism was also taken as a term to explain feminist activism undertaken via the Internet and respondents offered numerous examples of this activism including bulletin boards, discussion lists, circulating electronic petitions and the development of Web pages for women's organisations. There has been concern expressed, however, that feminist activity undertaken on or via the Internet may distract women away from 'real world' feminism, as Millar commented:

"Can organizing in Cyberspace result in social change in the real world? Or does prolonged use of these technologies simply sap our energies?" (Millar, 1998)

Other doubts about the value of the Internet for women have been raised too. Hawthorne (1999), for example, stressed that "connectivity is not everything" and although she recognizes the benefit of the Internet for mobilizing support for campaigns and activism, she also understands that there is an ulterior motive behind the call for women to be connected, namely profit.

Conclusion

Although the Internet began as an instrument of the powerful, as Bahdi argues, the marginalized are now harnessing the technology to promote diverse causes (Bahdi, 2000). Women and feminists have not been slow to recognise the potential power of the Internet for information dissemination, gathering and sharing and for connecting with like-minded people in the pursuit of common objectives. There are still some formidable barriers to overcome in increasing women's use of the Internet and ensuring that they participate fully in the Information Society. Some of the more obvious problems have been discussed above but there are other quite fundamental issues to address, such as the question of language. Web site design can also be a factor rendering some Internet content inaccessible to a large proportion of women worldwide.

Despite the difficulties, women must engage with the technology now if they are to have a say in shaping the Information Society. Women have been excluded from important aspects of society and governance for many centuries; information society technologies could reinforce that marginalization if women do not master the technology and speak out about the future of the Information Society. Although there are

concerns about commercialism, explicit, misogynist content and the power of the Internet to homogenize, on balance it is probably more dangerous for women to be excluded altogether than to try to work within a male-dominated electronic environment. Hopefully, by engaging with it we can change it for the benefit of women all around the world.

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